Autonomous Agents and Multi-Agent Systems
2007/2008

Laboratory 9 – Reactive Agents in Counter-Strike

Objectives

- Reactive Agents implementation

Exercise

A *reactive agent* does not keep any internal state and its behavior is described by rules as follows: *<perception>* → actuator*.

From the initial platform version, build reactive agents for terrorists and counter-terrorists. With respect to navigation, reactive agents **cannot use** the IWaypointNavigation interface but only the IreactiveWaypointNavigation interface, which provides information about visible waypoints.

1. The rules for terrorists are as follows:

```
(R1) Reached destination && Is in bomb site && Is bomber -> Plant bomb
(R2) ~Moving && Goal waypoints are visible && Is bomber -> Move to
arbitrary goal waypoint
(R3) ~Moving -> Move to arbitrary waypoint || Turn
(R4) Enemy is visible && Is bomber -> Fire
(R5) Enemy is visible && ~Is bomber -> Hold && Fire
```

2. The rules for counter-terrorists are as follows:

```
(R1) Armed bomb is visible && ~Close enough to bomb -> Move towards it
(R2) Armed bomb is visible && Close enough to bomb -> Defuse it
(R3) Hears bomb -> Aim at it (so as to facilitate seeing it)
(R4) ~Moving && Goal waypoints are visible -> Move to arbitrary goal
waypoint
(R5) ~Moving -> Move to arbitrary waypoint || Turn
(R6) Enemy is visible && ~Bomb is planted -> Hold && Fire
(R7) Enemy is visible && Bomb is planted -> Fire
```